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Agroiconota judaica (FABRICIUS, 1781) and *A. inedita* (BOHEMAN, 1855) - distinct species
(Coleoptera: Chrysomelidae: Cassidinae)

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ABSTRACT. *Agroiconota judaica* (FABRICIUS, 1781) and *A. inedita* (BOHEMAN, 1855) are distinct species. *A. judaica* is widespread in northern and north-western part of South America, *A. inedita* occurs in eastern Brazil, Paraguay and N Argentina. *Agroiconota urbanae* BUZZI, 1996 is a new synonym of *A. subvittata* (BOHEMAN, 1855) and *Coptocycla judaica* var. *operosa* BOHEMAN, 1855 is a new synonym of *A. judaica* (F.).

Key words: entomology, taxonomy, synonymy, Coleoptera, Chrysomelidae, Cassidinae, *Agroiconota*, South America.

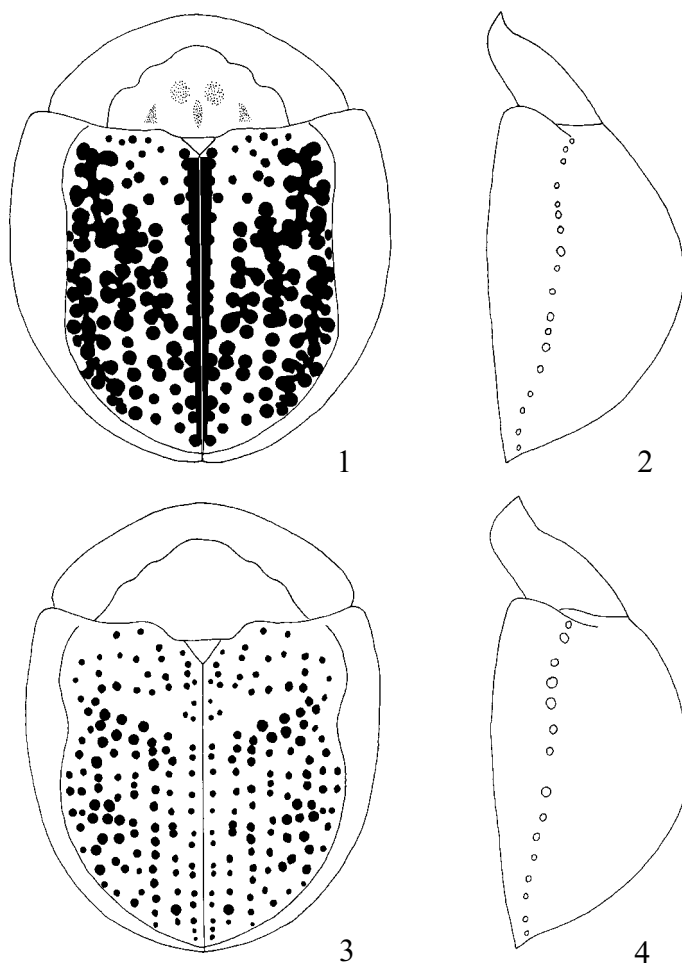
Agroiconota judaica was described by FABRICIUS (1781) under the name *Cassida iudaica* from "Cayennae" (now French Guyana), and *Agroiconota inedita* was described by BOHEMAN (1855) as *Coptocycla inedita* from "Brasilia". SPAETH (1936) reviewed the genus *Agroiconota* SPAETH, 1913 and placed in it 16 species, including *A. judaica* (F.). He synonymized *C. inedita* BOH. with *A. judaica* (F.). During my stay at the Manchester Museum (where SPAETH's collection is placed) and Stockholm Museum (BOHEMAN's collection) I found that *A. judaica* sensu SPAETH and *A. judaica* sensu BOHEMAN represented two distinct species (BOROWIEC 1997). I designated also lectotype for *Coptocycla inedita* BOHEMAN, 1855 which is conspecific with *A. judaica* sensu SPAETH. By courtesy of Dr. O. MARTIN (Zoologisk Museum, Kopenhagen) I have had an opportunity to examine both syntypes of *Cassida iudaica* from FABRICIUS's collection. The first specimen is well preserved and it is conspecific with *C. judaica* sensu BOHEMAN; the second

specimen is strongly damaged, with only abdomen and right elytron. The preserved elytron is completely transparent with an obsolete pattern, and only its shape and puncturation suggest that the specimen is conspecific with the first specimen. Thus *A. judaica* (F.) and *A. inedita* (BOH.) are closely related but distinct species. Their diagnoses are given below.

Explanation of abbreviations (names of curators in parentheses):

HNHM - Hungarian Natural History Museum, Budapest (O. MERKL);

CMNH - Carnegie Museum of Natural History, Pittsburg (R. DAVIDSON);



1-2. *Agroiconota judaica*, 3-4. *A. inedita*: 1, 3 - male body outline and elytral pattern, 2, 4 - body in profile

IRSN - Institut Royal des Sciences Naturelles, Bruxelles (L. BAERT, M. CLUDTS);
 JAS - A. JASIŃSKI coll., Warsaw;
 JM - J. MAUSER coll., Freiburg;
 LB - author's collection, Wrocław;
 LU - Zoological Museum, Lund University, Lund (R. DANIELSSON);
 MS - M. SNIZEK coll., Ceske Budejovice;
 MZUF - Museo Civico di Storia Naturale, Firenze (L. BARTOLOZZI);
 NRS - Naturhistoriska Riksmuseet, Stockholm (P. LINDSKOG);
 RR - R. REGALIN coll., Milano;
 SZ - S. ZOIA coll., Milano;
 UA - U. ARNOLD coll., Berlin;
 ZMK - Zoologisk Museum, Kopenhagen (O. MARTIN);
 ZSM - Zoologisches Staatssammlung, München (G. SCHERER).

Agroiconota judaica (FABRICIUS, 1781)

Cassida judaica FABRICIUS, 1781: 109, 1787: 63, 1792: 295 (*judaica*), 1801: 392; OLIVIER, 1790: 381, 1808: 968 (incl. fig.); Herbst, 1799: 280; SCHÖNHERR, 1817: 216; ERICHSON, 1847: 155; WAGENER, 1877: 57.
Coptocyclus judaica: BOHEMAN, 1855: 293, 1856: 179, 1862: 441; GEMMINGER and HAROLD, 1876: 3671; KIRSCH, 1876: 94; CHAMPION, 1894: 209.
Metriona judaica: WEISE, 1896 b: 14, 1921: 200; MAULIK, 1916: 589.
Metriona (Metriona) judaica: SPAETH, 1914 g: 139.
Agroiconota judaica: SPAETH, 1936 a: 215 (not FABRICIUS, 1781, see *inedita*), 1942 b: 39; BLACKWELDER, 1946: 748; WILCOX, 1975: 156; WINDSOR et al., 1992: 390.
Coptocyclus judaica var. *operosa* BOHEMAN, 1855: 293, 1856: 179, **n. syn.**
Metriona (Metriona) judaica ab. *operosa*: SPAETH, 1914 g: 139.
Agroiconota judaica ab. *operosa*: BLACKWELDER, 1946: 748.

Host plant: *Convolvulaceae*: *Merremia aegyptia*, *M. umbellata* (WINDSOR et al., 1992).

Lectotype (present designation): “*judaica*” “Kiel I.392.25” – specimen in good condition (ZMK); paralectotype: the same data, strongly damaged specimen, only abdomen and right elytron (ZMK).

BOHEMAN (1855) described an aberration of *C. judaica* under the name var. *operosa* from Colombia. According to his original description its type or syntypes were preserved in DEJEAN's collection. During my stay at the Paris Museum I did not find these specimens, but based on original description and type locality it simply a synonym of *A. judaica* which is very variable species.

MATERIAL EXAMINED

BOLIVIA: Beni, Guayaramerin, 23 XI 1966, 3, 26 XI 1966, 1, 2 XII 1966, 1, 5 XII 1966, 2, BALOGH, MAHUNKA and ZICSI (HNHM, LB); Chapare, 400 m, 3 IV 1949, 1, 25 V 1954, 1, 10 VIII 1954, 1, ZISCHKA (ZSM);

BRAZIL: Amazonas, 10 km W Tefe, 23 II 1981, 11, G. EKIS (CMNH); Amazonas, Paraque, 30 km E Manaus, 17 I 1981, R. DAVIDSON (CMNH); Maranhã,

Dom Pedro, VIII 1984, 2, F. BARTOLOZZI (MZUF); Mato Grosso, Corumba, 3 (CMNH); Pará, Currallinho, Ilha de Marajo, III-VI 1988, 3, F. GALIZIA (RRSZ); Pará, Santarem, 2 (IRSN), 9 (CMNH), I 1919, 2, S. M. KLAGES (CMNH); Pará, Taperina, 3 (CMNH); Pernambuco, 22 VI 1930, 5, HORVATH (HNHM); Rio Grande do Sul, Porto Alegre, XI 1958, 1, K.E. HÜDEPOHL (ZSM); Rio Grande do Sul, Torres, I 1960, 1, K.E. HÜDEPOHL (ZSM); Rondonia, Porto Velho, 20 III 1979, 1, C.R. OWEN (HNHM);

EQUADOR: Esmeraldas, Borbon (Valdez), 28 VIII 1984, 2, S. Zoia (SZ); Napo, Misahualli, 19 II 1983, 1, L. HUGGERT (LU); Pichiu, Rio Palenque, 4 II 1983, 3, L. HUGGERT (LU); Tena, 1, IX 1995, 9, A. JASIŃSKI (JAS);

FRENCH GUYANA: Acarouany, VI 1993, 4, MAREK (MS); Cayennae, I 1917, 1, II 1917, 1 (CMNH); riv. Kourou, 190 (IRSN); Nouveau Chantier, 4 (IRSN); Passoura, 1 (IRSN);

GUYANA: Essequibo, Conwarook Potaro, IV 1937, 3, C. ROMITI (MZUF); Essequibo, Webecari Mission, IV 1937, 11, C. ROMITI (MZUF);

PANAMA: Canal Zone, Skunk Hollow nr. F. Sherman, 28 V 1986, 1, RILEY (MS);

PERU: Cusco, Quillabamba, 24 XII 1983, 1, L. HUGGERT (LU); Huanuco, Tinga Maria, 26 I 1984, 1, L. HUGGERT (LU); Madre de Dios, Puerto Maldonado, 2 I 1984, 1, 3 I 1984, 2, 6 I 1984, 1, L. HUGGERT (LU); Ukayali, 40 km N Caco, 24 VI 1980, 2, W. PUCHALSKI (LB);

SURINAM: Albine, 21 IV 1993, 1, MAREK (MS); Nieuw-Amsterdam, VII 1984, 1, D. MAKHAN (RB);

TRINIDAD and TOBAGO: Maccao, 13 I 1965, 4, Ch. IRHAMMAR (LU); Trinidad, Arima, XII 1972, 6 (UA); N Trinidad, Asa Wright NP, 15 VII-15 VIII 1992, 4, GACK (JM); Trinidad, Maracas, 21 I 1976, 1, RICHTER (UA); E Trinidad, Nariva Swamps, 15 VII-15 VIII 1992, 1, GACK (JM);

VENEZUELA: Sucre, Cumanacoa, XI 1929, 1, G. NETTING (CMNH).

Agroiconota inedita (BOHEMAN, 1855)

Coptocycla inedita BOHEMAN, 1855: 356, 1856: 186, 1862: 454; GEMMINGER and HAROLD, 1876: 3670; SPAETH, 1936 a: 214 (as syn. of *judaica*).

Metriona (Metriona) inedita: SPAETH, 1914 g: 139.

Metriona inedita: BLACKWELDER, 1946: 752.

Agroiconota judaica: TENEBBAUM, 1927: 37; MARQUES, 1932: 6, 22 (biology, immature stag.); SPAETH, 1936 a: 215; BUZZI, 1988: 573 (biology), 1994: 208 (host plant); BOROWIEC, 1996: 123 (misinterpretations).

Host plant: *Convolvulaceae*: *Ipomoea batatas* (MARQUES, 1932); *I. purpurea* (BUZZI, 1994).

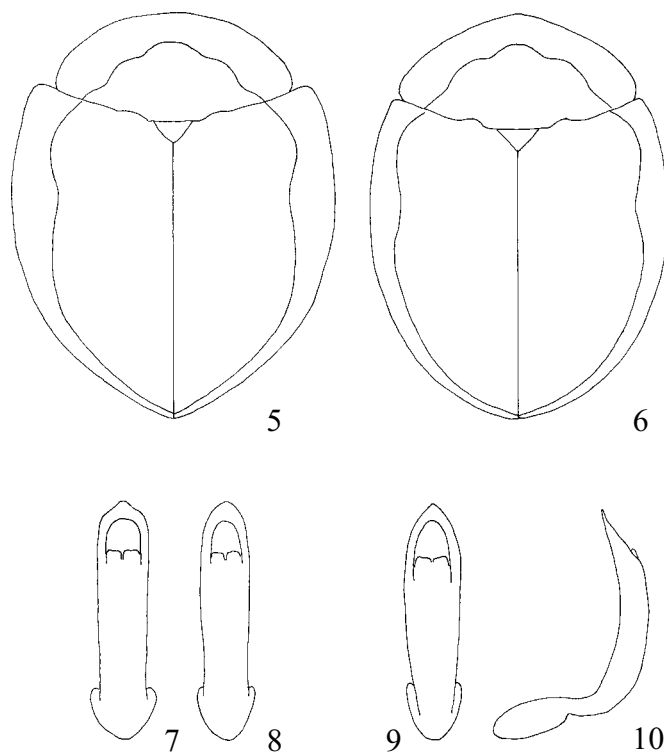
Lectotype: “Rio Jan.” “F. Sahlb.” “Type” (NRS); paralectotype: “Brasil” “Mhm” (NRS); paralectotype is conspecific with *A. punctipennis* (Boh.) – designated by BOROWIEC (1997).

MATERIAL EXAMINED

See BOROWIEC (1996: 123) under the name *judaica*.

DIAGNOSIS

A. judaica and *A. inedita* belong to the group of species without yellow longitudinal bands, explanate margin of elytra impunctate, elytral disc distinctly convex, apex of elytra regularly rounded and explanate margin of pronotum punctate on sides (in some populations of *A. judaica* punctures of explanate margin of elytra partly or completely obsolete). This group comprises besides both discussed species, also *A. subvittata* (BOHEMAN, 1855) [*Coptocycla subvittata* BOHEMAN, 1855: 287, holotype in Stockholm Museum, examined = *Agroiconota urbanae* BUZZI, 1996: 1, holotype in Universidade Federal de Paraná, not examined but description and figures excellent, **n. syn.**] from Bolivia and Brazil: Mato Grosso and S. Paulo and *A. parellina* Spaeth, 1937 from N Argentina, Bolivia, Paraguay and S Brazil. *A. subvittata* distinctly differs in elytral pattern forming longitudinal bands while in *A. judaica* and *A. inedita* punctures have brown areolae sometimes coalescent and form irregular spots, especially along suture



5, 7, 8 - *Agroiconota judaica*, 6, 9, 10 - *A. inedita*: 1, 2 - female body outline, 7-10 - male genitalia: 7 - specimen from Ecuador, 8 - specimen from French Guyana, 9-10 - specimen from Parana in Brazil

and sides. *A. judaica* is stouter (length/width ratio in male 1.26-1.28, in female 1.29-1.32, in *inedita* in male 1.31-1.38, in female 1.38-1.41) with base of elytra more distinctly wider than pronotum (figs 1, 5 and 3, 6 respectively) and elytral disc slightly irregularly convex (fig. 2), while in *inedita* disc is almost regularly convex (fig. 4). Antennae in *A. judaica* are slightly slimmer, with last segments slightly more elongate than in *A. inedita*. Puncturation of explanate margin of pronotum in *A. inedita* is stronger and punctures more numerous, usually occupying half surface of the margin while in *A. judaica* punctures are sparser, grouping near angles of pronotum, sometimes reduced to 3-4 punctures on each side, occasionally obsolete. Dorsal maculation in *A. judaica* is usually darker than in *A. inedita*, reddish brown to dark brown, while in *A. inedita* it is rather pale brown with diffuse borders, in some specimens dark markings are reduced to punctures. Aedeagus in *A. judaica* is almost parallelsided, with obtuse apex (fig. 8), in southern populations often with small apical process (fig. 7), while in *A. inedita* aedeagus is narrowed from apex to base, with acute apex (fig. 9). In profile aedeagus in both species very similar (fig. 10). *A. parellina* is the smallest species of the group, c. twice smaller than its other members. It is almost as stout as *A. judaica*, but with elytral convexity more regular, like in *A. inedita*. *A. parellina* is usually paler coloured than *A. judaica*, with pattern reduced to narrow areolae around elytral punctures, or only punctures with dark centre. Pale specimens of *A. judaica* with reduced punctures of explanate margin of pronotum are similar also to *A. punctipennis* (BOHEMAN, 1855) but the latter species is more distinctly convex, always without spots on elytra. Both species are separated geographically, *A. punctipennis* occurs only in SE Brazil (Rio de Janeiro, Santa Catarina).

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